



# **Joint Cruise Missile Defense Target Operations**

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**NDIA Conference  
11 Oct 00**

*Presented by:  
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JCMD, Deputy*



# Purpose

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**Provide NDIA Conference  
an overview of the  
Joint Cruise Missile Defense (JCMD)  
Joint Test and Evaluation (JT&E)  
Target Operations**



# Agenda

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- **Program Overview**
- **Field Tests/Target Operations**
- **Summary**



# The Genesis of JCMD

## PACAF/CC's concern for Air Defense against CMs

**“... each service has been exploring independent CMD initiatives in response to the growing Land Attack and Anti-ship Cruise Missile threat. A JT&E could serve not only to unite the services in developing a Joint approach to the CMD mission, but also provide tremendous insight on how our Combat Air Forces should organize, train, and equip for this near future core mission area. Our ultimate goal with this proposal is to identify the resources and training our forces require to perform the CMD mission.”**



**General Richard Myers**  
**Vice Chairman JCS**  
**(Former Commander PACAF)**



# JCMD Mission

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**Joint Cruise Missile Defense (JCMD) providing the CINC (Warfighter) with an assessment of their Joint Integrated Air Defense System (JIADS) cruise missile defense capabilities.**



# JCMD Issues

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- **Issue 1 (Baseline - 2001)**

- What is the current JIADS capability to defeat CMs?

*(Refers to those systems and TTPs/CONOPS that are fielded and integrated into the JIADS in the 2001 timeframe)*

- **Issue 2 (Enhanced - 2003)**

- How do near-future enhancements improve CMD capability?

*(Refers to systems from the baseline evaluation and any additional enhancements - systems/capabilities/procedures - that are fielded and integrated into the JIADS in the 2003 timeframe)*



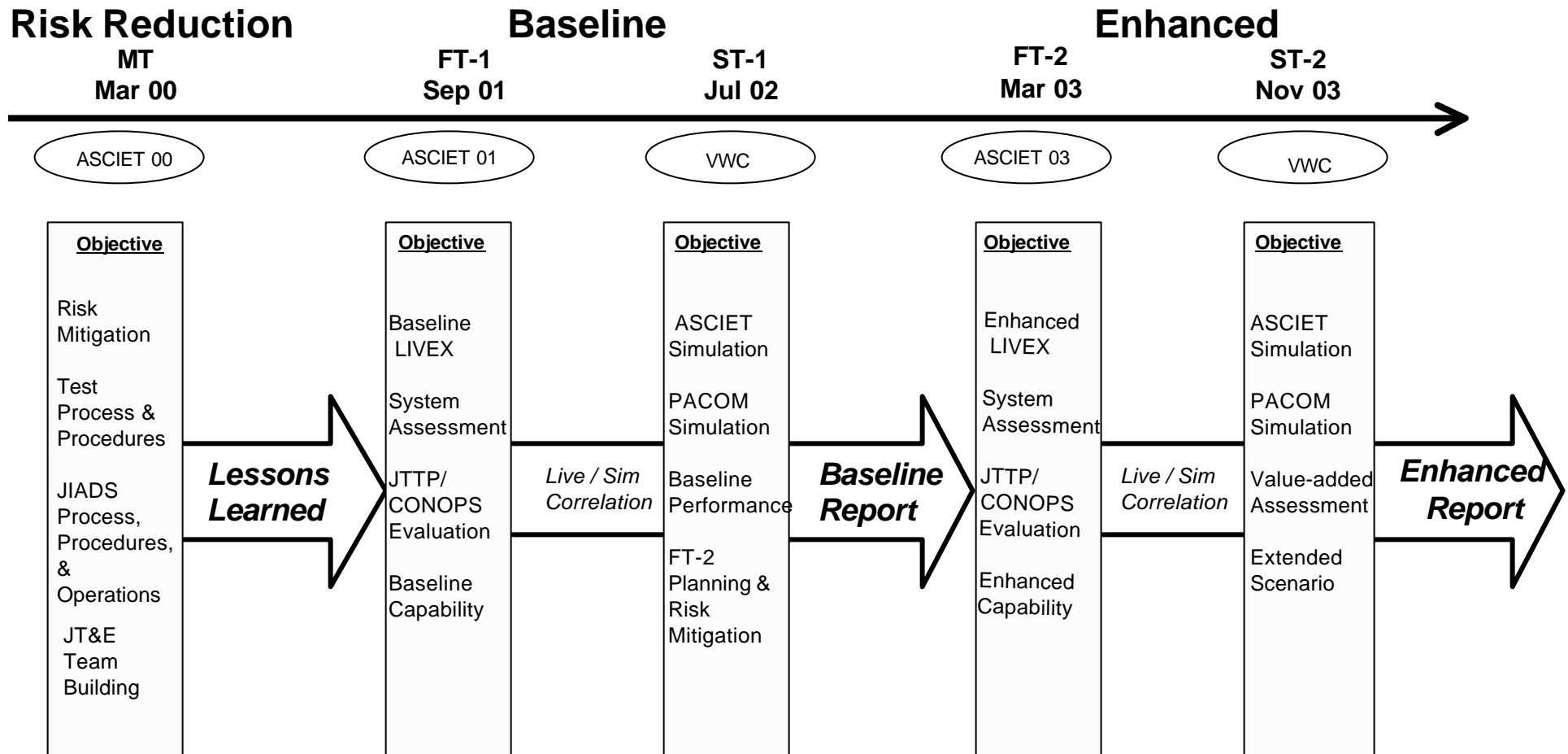
# Objectives

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- **Give CINCs a timely, definitive assessment of their capability to conduct a coherent & effective joint integrated air defense versus cruise missiles**
- **Assess current and evolving CONOPS & TTPs**
- **Provide insight to a “Family of Systems” solution to the JCMD mission area**
- **Provide a rigorous joint test methodology for JCMD**



# Methodology



Legacy  
Products

JCMD/00-06

**Test Methodologies · TTP · M&S · CMD Core Expertise · Target Validation**

**Findings/Reports · Warfighter CMD Reference Manuals · Training · AOR Planning Inputs**



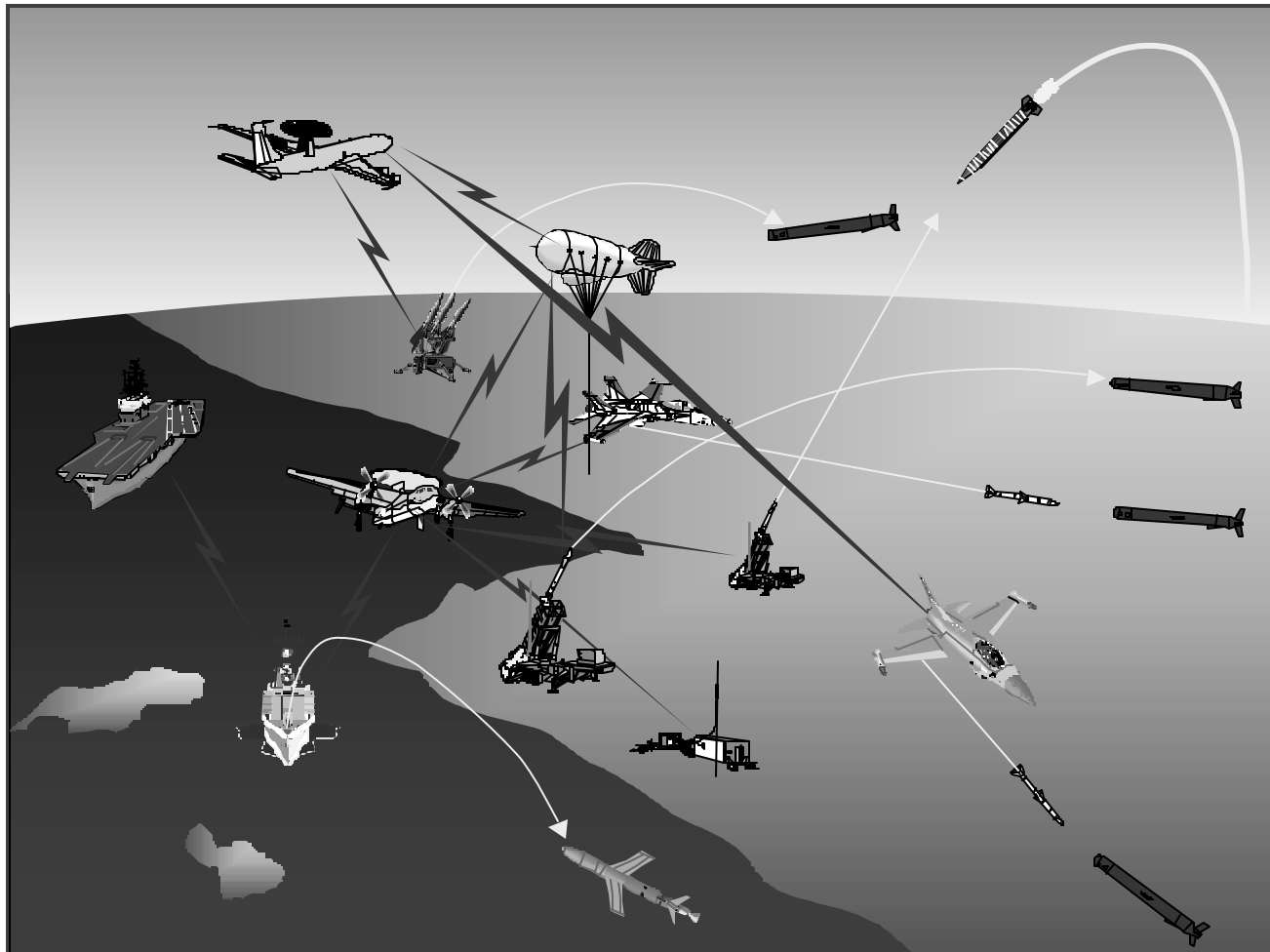


# **Field Tests and Target Operations**





# Joint Integrated Air Defense System

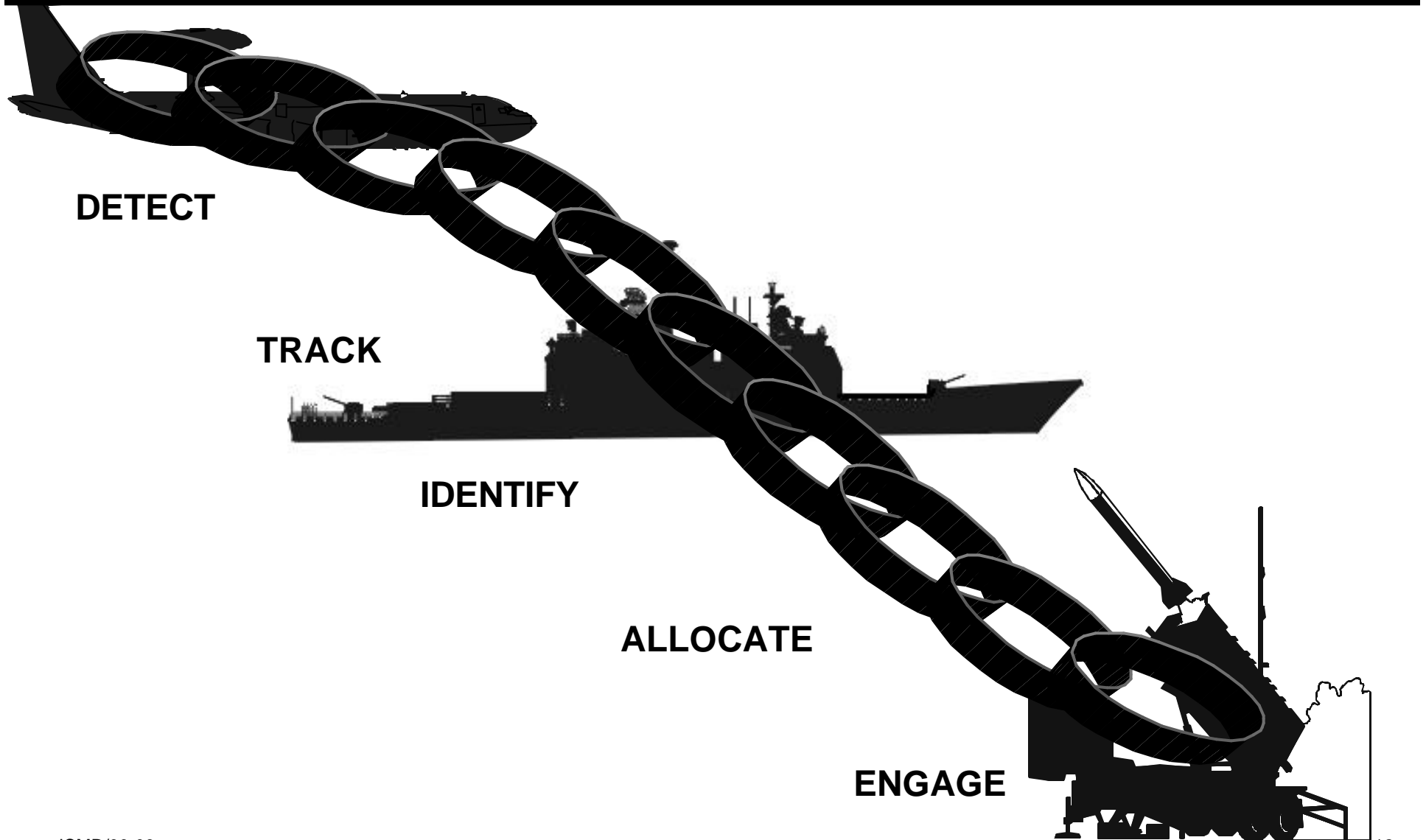


**A JIADS represents the interrelationships between  
Surveillance, BM/C4I, and Shooter assets**



# JIADS Mission Tasks

## “Kill Chain”





# ASCIET 2000 Participants

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## Air Force

AWACS  
CRC/TPS-75



## Army

Patriot  
Sentinel  
ABMOC  
Linebacker  
Avenger



## Navy

E-2C  
Aegis  
F-14  
F/A-18



## Marines

TAOC/TPS-59  
Avenger

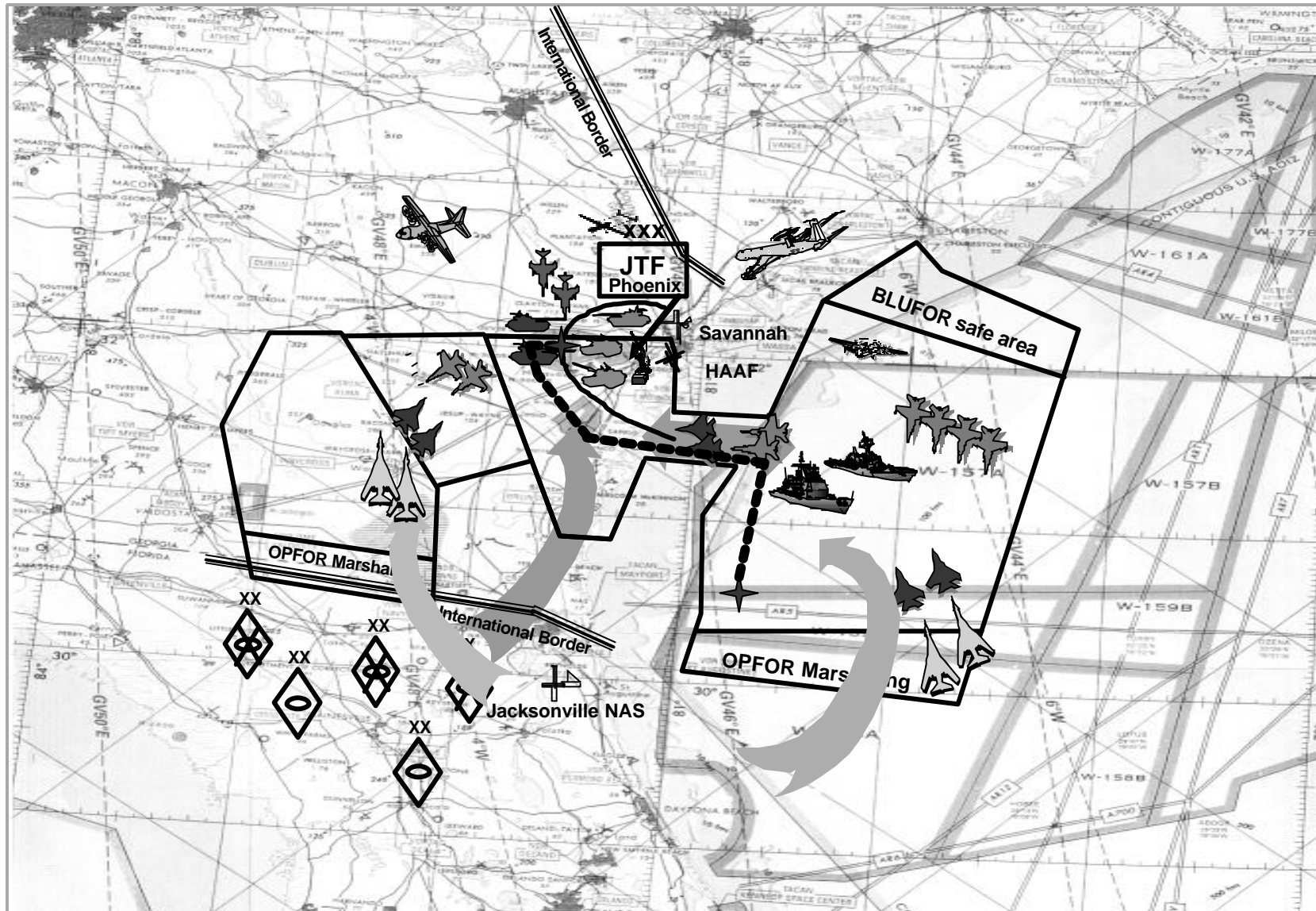


## Coalition

HMS Norfolk  
F-3



# ASCIET 2000 Full-Scale Scenario



# BD-5J



**Length - 12'**

**Wingspan - 17'**

**Height - 5.5'**

**Range - 250 miles**

**Maximum speed - 270 KTAS**







# Target Validation

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**Requirement:** Validated JCMD target (BD-5J)

**Source:** DIA letter dated 29 Feb 00

**Approval:** Target assessed as threat representative of a Type I land attack cruise missile.\*

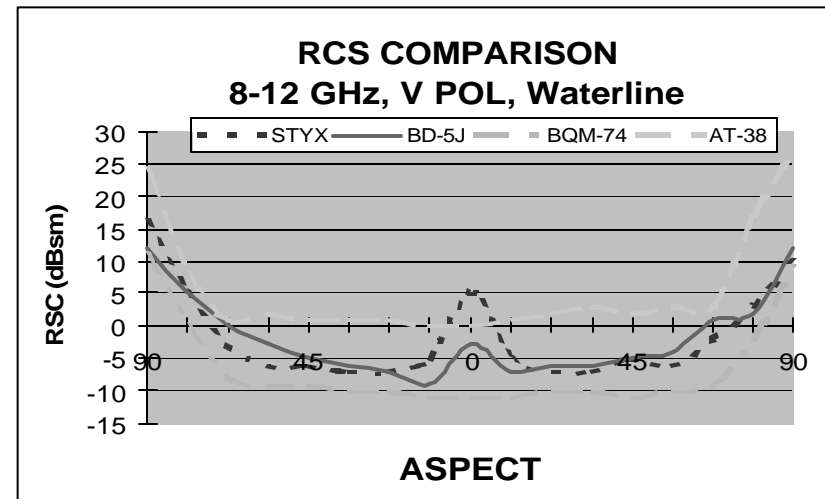
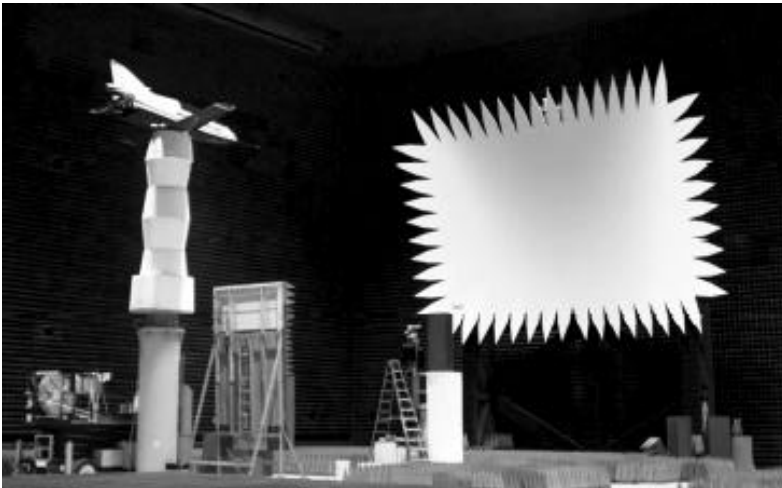
**Includes:** Flight Profile (e.g., hdg, alt, spd) Radar Cross Section (dBsm)

**\* *Type I data source is found in BMDO Aerodynamic Missile Threat to Surface Targets (U), BMDO-DTC-0003-99***



# BD-5J

- **BD-5J validated by DIA**
  - Airspeed/altitude/endurance/flight profile
- **Comprehensive BD-5J RCS testing accomplished**
  - 350MHz-550MHz and 2-18GHz
  - Vertical/Horizontal Polarization
  - Waterline and  $\pm 5^\circ$



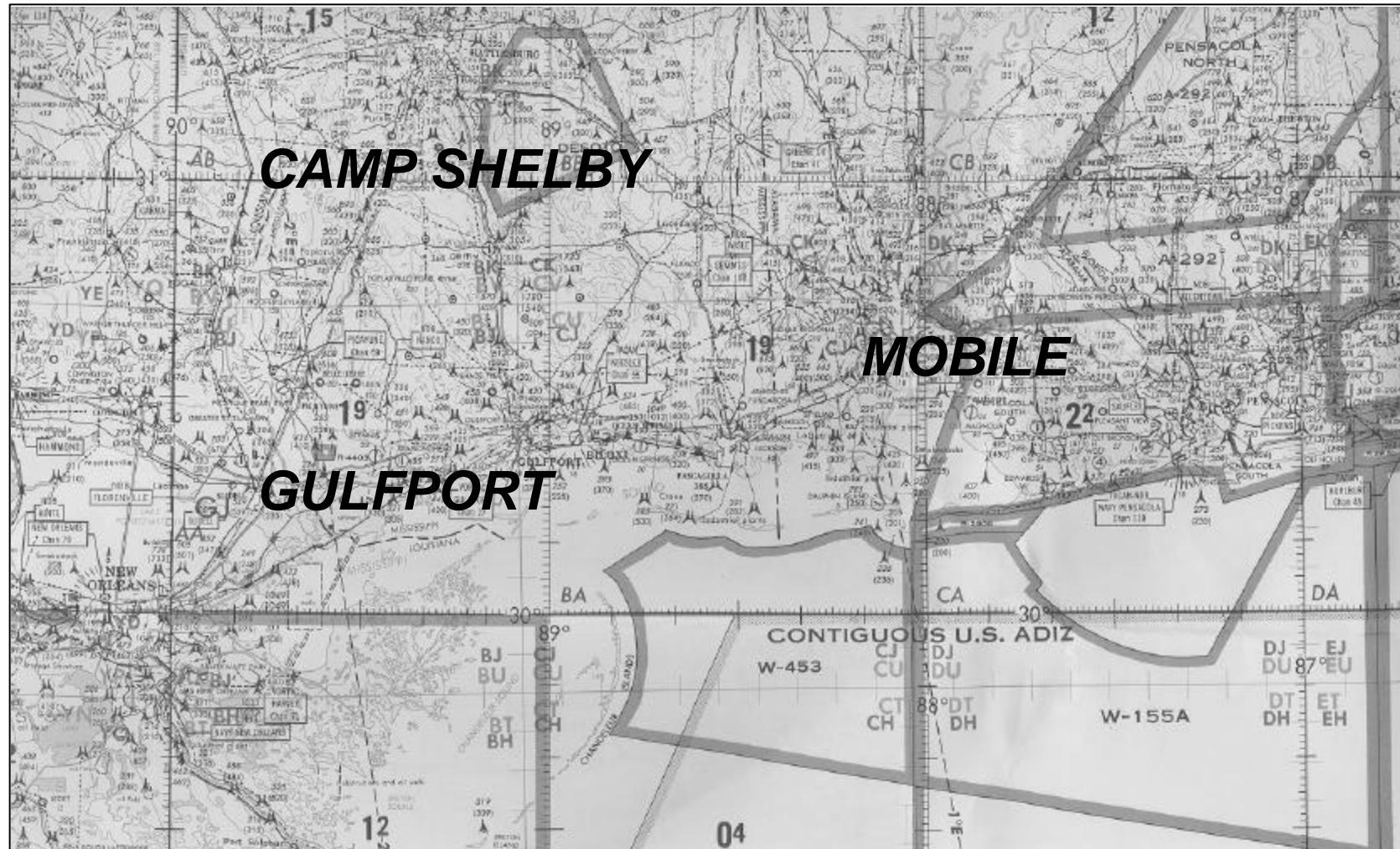


# BD-5J Instrumentation





# ASCIET 2001





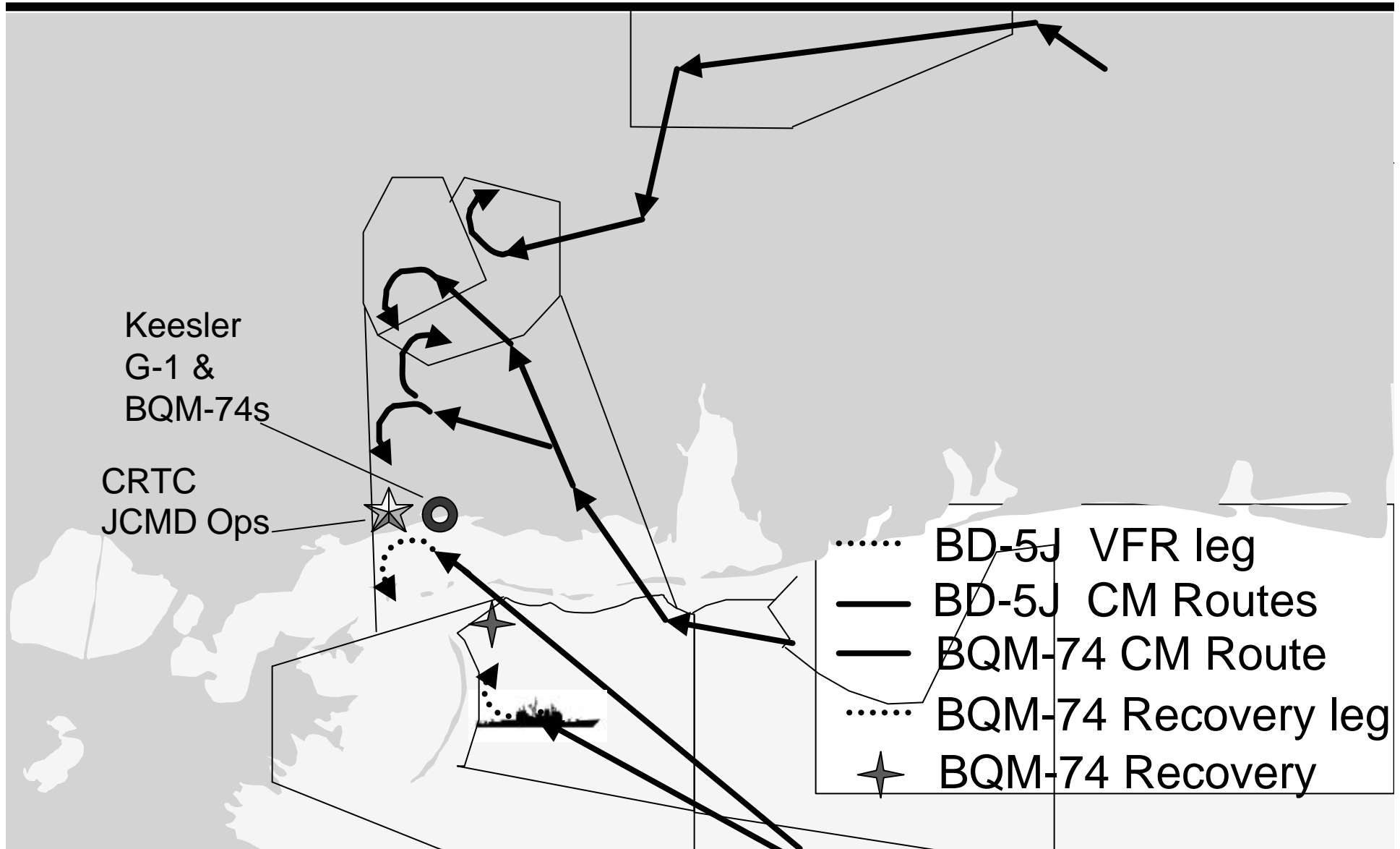
# JCMD Cruise Missile Operations ASCIET 2001

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# CM Surrogate Operations Big Picture





# BQM-74E Specifications

- BQM-74E System Information
- SPEED            MIN: 200 KIAS            MAX: 480 KIAS            PLANNED: 330KIAS
- ALTITUDE        MIN: 30 FT MAX: 30,000 FT            PLANNED: 500 FT
- TYPE PROPULSION:            Turbo Jet Engine (240 LB Thrust)
- ENDURANCE:    MIN: 0 Minutes            MAX: 45 Minutes
- COMMAND CONTROL SYSTEM: MAGICC
- LAUNCH MODE: Surface or Air Launched





# BQM-74 CM Surrogate Air launch from G-1







# G-1 Launch Platform

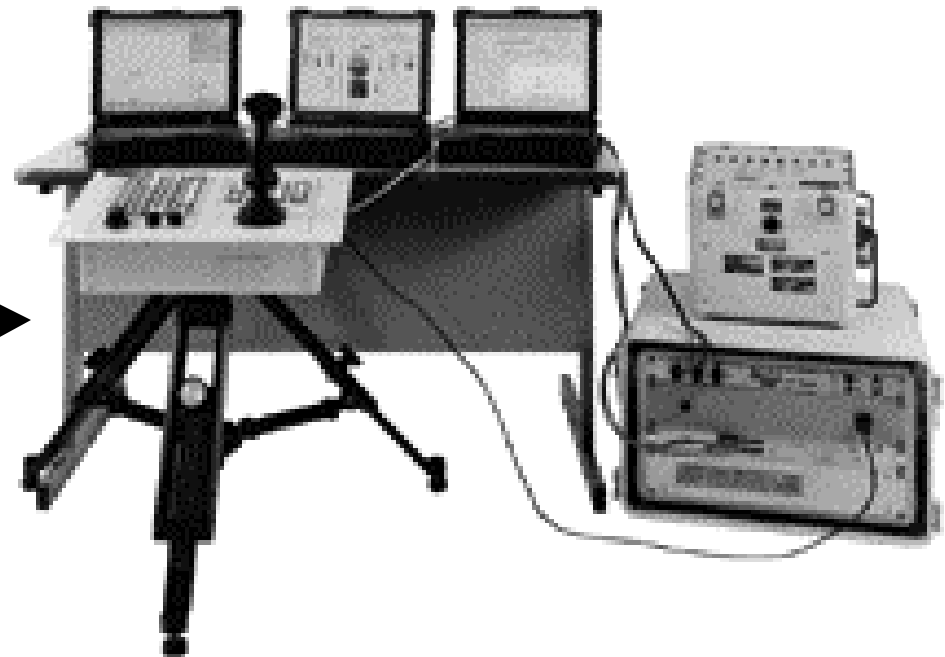
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- **Carriage and near-simultaneous launch of 2 BQM-74s**
- **Link 16, LMS 16, telemetry relay, Satcom, Autocat (UHF), video relay**
- **Can stay on station for entire 5 hour vul period**
- **Range clearing capability built in**
- **Video taping of carriage and launch**



# MAGICC Control System

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# **JCMD Target Considerations ASCIET 2001**

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- **Coordinated Firing Area for BQM-74**
- **Water recovery area for BQM-74**
- **FAA waiver for BD-5J airspeed below 10K feet, VFR/MTR <500 feet, VFR IFF off operations**
- **Choke points in south (Patriot/Aegis)**
- **Dedicated VHF frequency for BD-5J emergency communications**



# Summary

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- **JCMD working with community to ensure maximum value of efforts in assessing JIADS performance against CMs (warfighters, material developers, doctrine writers, etc.)**
- **Mini-Test was a resounding success!**
  - Test procedures were exercised and improvements identified
  - ASCIET acknowledged JCMD as a crucial test partner for CMD
  - Event provided early assessment of JIADS performance
- **FT-1 will see a larger and more diverse & stressing CM surrogate package**